REMARKS

Claims 30-57 are now in the application.

In the previous Office Action, the Examiner rejected the previous claims under 35 U.S.C. §112 as being indefinite. The present claims are definite and satisfy the requirements of 35 U.S.C. §112.

In the previous Office Action, the Examiner rejected certain of the previous claims under 35 U.S.C. §103 as being unpatentable over the Ip patent.

The Ip patent discloses a sensor/packaging arrangement in which a ceramic case 40 encloses a sensor die 20. A center contact spring 32 secures the sensor die 20 within the ceramic case 40 against shocks, and correctly positions the sensor die 20 between a conducting ring 28 and a spring 36. The spring 36 provides a number of functions. First, the spring 36 provides an electrically conductive path from the sensor die 20 through the lid 60, through the conductive ring D on the ceramic case 40, and through a conductive material in a via 64 to an external contact CT at the bottom of the ceramic case 40. Second, the spring 36 applies a downward force to the sensor die 20 such that good electrical contact is made between the conductive ring 28 and a gold plated surface B of the ceramic case 40.

Third, the spring 36 maintains the sensor die 20 securely inside the cavity of the ceramic case 40 so that the sensor die 20 is not subjected to strain due to thermal variations.

As can be seen from the drawings of the Ip patent, the Ip patent does not disclose or suggest that the upper surface of the sensor die 20 and the upper surface of the ceramic case 40 are coplanar as required by independent claims 30 and 46, or that the outwardly facing surfaces of the sensor die 20 and the ceramic case 40 have edges that abut one another as required by independent claim 53. Accordingly, the claims of the present application are patentable over the Ip patent.

The Examiner argues that, if the spring 36 disclosed in the Ip patent were removed, the upper surface of the ceramic case 40 and the upper surface of the sensor die 20 would then be coplanar, and that so omitting the spring 36 requires only routine skill if the remaining elements function as before.

However, removing the spring 36 would make the sensor disclosed in the Ip patent inoperable. As disclosed in the Ip patent and as discussed above, the spring 36 provides an electrically conductive path from the sensor die 20 to the outside contact CT. This

conductive path would be lost if the spring 36 were removed. Accordingly, contrary to the argument of the Examiner, the sensor disclosed in the Ip patent cannot function properly without the spring 36.

Therefore, it would not have been obvious to one of ordinary skill in the art to remove the spring 36 from the sensor disclosed in the Ip patent.

Moreover, even if the spring 36 were removed, the upper surface of the sensor die 20 would not be coplanar with the upper surface of the ceramic case 40. There is no device disclosed in the Ip patent that applies an upward force to the sensor die 20 such that, were the spring 36 removed, the sensor die 20 would be lifted up to the point where the upper surface of the sensor die 20 would be coplanar with the upper surface of the ceramic case 40. Accordingly, even if the sensor disclosed in the Ip patent were modified as suggested by the Examiner, the resulting structure would not meet the limitations of the rejected claims.

For this reason also, it would not have been obvious to one of ordinary skill in the art to remove the spring 36 from the sensor disclosed in the Ip patent.

Furthermore, there is no suggestion to modify the sensor disclose in the Ip patent so as to produce the

sensor package and method recited in the present claims. The sensor disclosed in the Ip patent is an accelerometer that would not benefit from mounting the sensor die 20 within the ceramic case 40 so that the upper surface of the sensor die 20 and the upper surface of the ceramic case 40 are coplanar.

With regard to any such suggestion, the Examiner has merely opined that applicants have not disclosed that removing the spring 36 solves any stated problem or is for any particular purpose. However, applicants are not required to prove a negative. Moreover, applicants have shown above that removal of the spring 36 takes away a conductive path between the sensor die 20 and the outside world. Applicants have also shown above that removal of the spring 36 does not produce a device that meets the present claims.

Accordingly, because there is no suggestion to remove the spring 36 of the sensor disclosed in the Ip patent or to otherwise modify this sensor so as to meet the claims of the present application, it would not have been obvious to modify the sensor disclosed in the Ip patent so as to meet the claims of the present application.

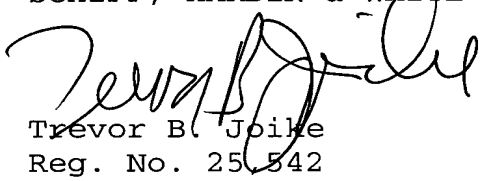
For all of the reasons given above, the claims of the present application are patentable over the Ip patent.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned **"VERSION WITH MARKINGS TO SHOW CHANGES MADE."**

In view of the above, it is clear that the claims of the present invention are patentable. Accordingly, allowance of these claims and issuance of this patent application are respectfully requested.

Respectfully submitted,

SCHIFF, HARDIN & WAITE

By: 

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Claims 1-29 have been cancelled.

The following claims 30-57 have been added:

30. A sensor package comprising:

a housing having an upper housing surface and a well extending into the housing through the upper housing surface, wherein the upper surface housing is in a first plane; and,

a force sensing element having an upper element surface and a lower element surface, wherein the upper element is in a second plane, wherein the force sensing element is supported by the housing such that the lower element surface is within the well and such that the first and second planes are coplanar.

31. The sensor package of claim 30 wherein the sensing element has a thickness between the upper element surface and the lower element surface, wherein the housing includes a shelf, wherein the shelf supports the sensing element within the well, and wherein the shelf has a depth with respect to the thickness of the sensing

element such that the upper element surface and the upper housing surface are coplanar.

32. The sensor package of claim 30 wherein the sensing element has a thickness between the upper element surface and the lower element surface, wherein the housing includes a shelf, wherein the shelf supports the sensing element within the well, and wherein the shelf has a depth substantially matching the thickness of the sensing element.

33. The sensor package of claim 32 wherein the housing has a connection pad within the well, wherein the sensing element has a connection pad, and wherein the connection pads of the housing and the sensing element are electrically coupled when the sensing element is supported by the shelf of the housing.

34. The sensor package of claim 33 wherein a conductive adhesive electrically couples the connection pads of the housing and the sensing element.

35. The sensor package of claim 34 further comprising a membrane covering the upper surfaces of the housing and the sensing element in order to provide electrical isolation of the sensor package.

36. The sensor package of claim 34 further comprising a membrane covering the upper surfaces of the housing and the sensing element in order to provide environmental protection for the sensor package.

37. The sensor package of claim 34 wherein the shelf has an adhesive reservoir to hold the conductive adhesive.

38. The sensor package of claim 34 wherein the shelf is arranged to prevent the conductive adhesive from migrating around an edge of the sensing element and causing the sensing element to electrically short.

39. The sensor package of claim 30 wherein the housing has a connection pad, wherein the sensing element has a connection pad, and wherein the connection pads of the housing and the sensing element are electrically coupled.

40. The sensor package of claim 39 wherein a conductive adhesive electrically couples the connection pads of the housing and the sensing element.

41. The sensor package of claim 40 further comprising a membrane covering the upper surfaces of the housing and the sensing element in order to provide electrical isolation of the sensor package.

42. The sensor package of claim 40 further comprising a membrane covering the upper surfaces of the housing and the sensing element in order to provide environmental protection for the sensor package.

43. The sensor package of claim 40 wherein the conductive adhesive is held in an adhesive reservoir of the housing.

44. The sensor package of claim 30 further comprising a membrane covering the upper surfaces of the housing and the sensing element in order to provide electrical isolation of the sensor package.

45. The sensor package of claim 30 further comprising a membrane covering the upper surfaces of the housing and the sensing element in order to provide environmental protection for the sensor package.

46. A sensor package comprising:

a housing having an upper housing surface, a well extending into the housing through the upper housing surface, and a shelf; and,

a force sensing element having an upper element surface, wherein the force sensing element is supported by the shelf of the housing such that the force sensing element extends into the well, such that the upper housing surface and the lower housing surface are coplanar, and such that the upper element surface and the upper housing surface face outwardly from the housing.

47. The sensor package of claim 46 wherein the housing has a connection pad within the well, wherein the sensing element has a connection pad, and wherein the connection pads of the housing and the sensing element are electrically coupled together.

48. The sensor package of claim 47 wherein a conductive adhesive electrically couples the connection pads of the housing and the sensing element.

49. The sensor package of claim 48 wherein the shelf is arranged to prevent the conductive adhesive from migrating around an edge of the sensing element and causing the sensing element to electrically short.

50. The sensor package of claim 48 wherein the shelf has an adhesive reservoir to hold the conductive adhesive.

51. The sensor package of claim 46 further comprising a membrane covering the upper surfaces of the housing and the sensing element in order to provide electrical isolation of the sensor package.

52. The sensor package of claim 46 further comprising a membrane covering the upper surfaces of the housing and the sensing element in order to provide environmental protection for the sensor package.

53. A method of packaging a force sensing element, wherein the force sensing element has an outwardly facing element surface, wherein the outwardly facing element surface has an edge therearound, and wherein the method comprises:

a) applying the force sensing element to a housing part having an outwardly facing housing surface so that the edge of the outwardly facing element surface abuts an edge of the outwardly facing housing surface; and,

b) attaching the force sensing element to the housing part.

54. The method of claim 53 wherein the force sensing element has a thickness, wherein the housing includes a well and a shelf, wherein the shelf has a depth substantially matching the thickness of the force sensing element, and wherein the applying of the force sensing element to a housing part comprises applying the force sensing element to the housing so that the shelf supports the force sensing element within the well.

55. The method of claim 53 wherein the housing part has a connection pad, wherein the force sensing element has a connection pad, and wherein the attaching of the force sensing element to the housing part comprises adhesively binding the connection pads of the housing part and the force sensing element together so that the force sensing element is attached to the housing part and so that the connection pads of the housing part and the force sensing element are electrically coupled together.

56. The method of claim 53 further comprising covering the outwardly facing surfaces of the housing part and the force sensing element with a membrane in order to provide electrical isolation of the force sensing element.

57. The method of claim 53 further comprising covering the outwardly facing surfaces of the housing part and the sensing element with a membrane in order to provide environmental protection for the force sensing element.